



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

NOTES.

In an article on methods of investigation in psychology, in *Humboldt*, Jan., 1888, Professor Kraepelin, of Dorpat, expresses the opinion that the reason why the reign of law has been doubted in the realm of mind is found in wrong views about the nature of the freedom and spontaneity of the will. The idea was that the soul was a somatic attendant apart from the body which attention could observe as correctly at least as it can objects. From the very nature of attention, however, as now conceived, we can observe no psychic process or state of ourselves without a constant error. This latter is partially avoided by the memory method, which consists of turning the mind back upon the remembered image of a recent process. This is a more valuable method. Yet the memory image is always changed, lacks objective control, and so results vary with different individuals. This lack has been supplied by the experimental method, which arose in the field of physiology, but has already unfolded a wide field and numerous methods peculiar to itself. Experiment frees us from the deception of self-perception, and, beginning with the study of the simplest psychic processes of sense perception, is already grappling with the more central problems of attention, fatigue, habit, contrast, reproduction, association, morbid processes, and is even beginning to reach results about feeling and will of general validity like facts of other sciences. Those competent for self-analysis by older methods are so few and so peculiar that only the small part of the field representing certain coincident peculiarities has been worked over, and that only roughly, for exigencies of conduct, etc. The field of experimental psychology is far wider already, and what has been done is very little compared with what is to be expected in the future.

In viewing the well known stair figure of Schröder there is also an oscillation, and we seem now to be looking up under and now down upon the steps. The time of this oscillation was also found to be about the same as that for faint optical impressions above. In all such flickers of apprehension from concave to convex the real sensation does not change, but the "apperceptive organ," or, as Lange calls it, the memory image of previously seen stairs from above and below does. In assimilating the sensation the memory picture intensifies it. This act of active appropriation, according to the laws of association, or the mentalization of sensations, is what is called sensuous impression, and it is the memory pictures that vacillate. The vacillation time of memory pictures was also registered and found to agree with that of real sensation, being only a fraction of a second shorter for each sense. Active apperception, which intensifies impression, is possible only through voluntary motion. Concepts have a motor "hook" or else they cannot be pulled forth by active attention. The phenomenon of mental suggestion shows the existence of a motor element in memory pictures. In thinking of

an object of definite form with eyes closed, the eye-ball often moves, and Loeb has pointed out that the change of a concave image to a convex, and conversely, may be caused by accommodation. Acoustic images, too, are closely associated with tensions in the vocal apparatus. Thus probably we analyze the component parts of a note. Wolfe found tone memory was best after a period about equivalent to one wave of attention, and not, as we should *à priori* expect, immediately. The explanation of the relation between Lange's period and the period of most accurate reproduction of time intervals (.7 second), as determined by Estel and Mehner, is a very poor attempt to meet one of the gravest difficulties of his speculation.

A. Charpentier (*Centralblatt für Physiologie*, No. 2) has conducted a series of experiments upon the relation between the duration of very short retinal sensations and the minimum of illumination at which a sensation of light takes place. He corroborates the law announced by Bloch, that the minimum of illumination that is perceived by the eye is inversely proportional to the duration of the light impression; in other words, a very brief light impression must be proportionately intense to be perceived. A certain light mass (considered as the product of duration by intensity) is necessary for a light sensation, and the two components may have any values, the law strictly holding only for light impressions of less than one-eighth second. Charpentier also found that after remaining in a dark room the sensibility was increased, and that the color of those very rapid impressions (.006-.040 sec.) could not be perceived. In a second portion of the research he pierced holes in a rotating disk and measured the rate of rotation at which a continuous band of light was visible through the holes, as conditioned by the waning (Fortdauer) of the impressions. He concludes (1) that as the illumination increases the waning of the light sensation decreases; (2) that for weak illuminations and brief stimulations the waning of the sensation is nearly inversely as the square root of the illumination; (3) the waning of the sensation varies in an inverse sense with the duration of the stimulation; (4) the color of the light has no effect except as varying the illumination; (5) exposing the eye to a dark room acts like other causes of an increase in the sensation, in shortening the time during which the sensation retaining its initial intensity persists after the cessation of the stimulus. Bloch found that fatigue of the retina increased the time of waning of the sensation, but Charpentier finds a shortening of the time. J. J.

Dr. R. Berlin (*Centralblatt für Physiologie*, No. 2) describes under the name "dyslexia," a novel psychic affection related to "alexia," or word-blindness, but differing from it in that the patients can read a few lines, but apparently get no sense from their reading and give it up in despair. A number of post-mortem examinations of such cases locates the injury in the left hemisphere, and suggests the possibility of a lesion interfering with the function of the fibres connecting the articulation-centres in the inferior frontal convolution with the visual centres of the occipital lobe.

Dr. A. Nieden (*ibid.*) contributes a corroboratory case to Dr. Berlin's description of this "reading phobia." The symptoms developed in the patient subsequent to his first epileptic seizure, and consisted in an undefined aversion to reading more than a line or two. An

attempt to force him to read resulted in fainting fits, with perverse olfactory sensations. There were found three foci of degeneration in the lenticular-striate region, the second of which, lying in the sub-cortical fibres behind Broca's convolution, seems to be in connection with the above described symptoms.

An interesting test of the function of the feelers of insects has been made by offering the choice of two troughs as a highway to a number of roaches (*küchenschaben*), one of the troughs having been made redolent of stale cheese (very offensive to the roaches), and counting the number of individuals going over the two routes. Of thirty-six trials the odorous trough was decidedly avoided thirty times, the experiments being made in the dark. If, however, the feelers be cut off from the insects, about as many choose the odorous as the non-odorous trough, indicating that the feelers function as organs of smell. (Veit Graber in *Centralblatt für Physiologie*, No. 6.)

O. Tumlitz describes a simple method of demonstrating the chromatic aberration of the eye (*Centralblatt für Physiologie*, No. 8). A ring of platinum wire about 20 mm. in diameter is brought to white heat and viewed at about half a meter distance, through a minute hole in a screen that just allows the ring to be seen. The outer edge of the ring will then seem red, the inner bluish violet.

Vintschgau and Steinach (*Pflüger's Archiv*) have measured the reaction times for temperature from various parts of the skin. The mere feeling of contact is perceived considerably before the sensation of heat or cold, and on the forehead was perceived by Vintschgau in .119, and by Steinach in .107, second; on the right cheek in .119 and .101 second respectively; on the volar and dorsal surface of the left hand, .126 and .128 and .133 and .111 second. The results of their experiments with the time it takes to perceive heat and cold are given in the following table:

	Cold.		Heat.	
	Vintschgau. 2.2°-4.8° C.	Steinach. 2°-2.8° C.	Vintschgau. 48°-49° C.	Steinach. 45°-49° C.
Right temple,	.160	.116	.166	.132
Left temple,	.170	.124	.185	.138
Middle of forehead,	.143	.116	.144	.128
Right cheek,	.143	.114	.154	.117
Left cheek,	.151	.116	.158	.146
Volar surface of hand,				
(1) 2nd finger-joint,	.186	.152	.205	.173
(2) Near the ulnar aspect,	.206	.186	.208	.206
(3) On the ball of the thumb,	.185	.194	.251	.175
Dorsal surface of hand,				
(1) Near the ulnar aspect,	.208	.179	.246	.199
(2) Near the radial aspect,	.204	.170	.233	.196

These times show that the reaction to cold is somewhat quicker than to heat. Again, it was observed that if the stimulation be applied repeatedly to the same spot at short intervals, the reaction time is lengthened both for cold and for heat, though upon the cheek there was a lengthening of the time for cold but not for heat. Details are promised in a future paper.

Dr. Goldscheider (*Archiv für Anat. und Phys.* V) has been experimenting in the same direction. He applies a metal ball 15° C. for the cold stimulation and 50° C. for the warm, and reacts by a simple movement of the jaw. More than 2000 observations were recorded. The final averages in seconds are: for *cold*, near the edge of the eyelid, .135; on upper arm, .150; on abdominal surface, .226; on inner surface of thigh, .255. Corresponding times for the reaction to a sensation of warmth were: .190, .270, .620, .790. Here heat is considerably more slowly perceived than cold, and the difference is the greater the further removed the part of the skin is from the brain, amounting in the lower limbs to nearly half a second. If the stimulus is weak the time is much lengthened. A moderately warm stimulus on the arm was not reacted upon until after .46 to .54 second, and if very weak, .90 to 1.1 second. Care was taken to select equally sensitive spots in the various parts of the body, and this makes the explanation of the great difference between a stimulation far from and near to the brain still more difficult. The author offers no explanation, but does not accept the explanation that the sensation of heat passes slowly along the gray columns of the cord.

J. J.

Dr. Stanford E. Chaillé, of the Tulane University, gives in a summary article (*New Orleans Medical and Surgical Journal*, June, 1887) the typical stages of development of the infant, the reflexes, the senses, emotions, language, color, and especially the physical measurements. The child, he concludes, is not more pure and virtuous than adults, as is commonly supposed, but manifests in germ most of the bad traits of savagery. Goodness he regards not as innate, but the slow recent result of growth in age and civilization.

In the extended literature now accumulating on the opium habit, it is evident that at least dogs and apes not only fall victims to the habit, but are affected in a way very similar to man by the drug.

Bloch has experimented on the relative strength of sensations as inferred by the order in which two simultaneous sensations reach consciousness, and concludes that it takes $\frac{1}{2}$ of a second longer to hear a sound than to see a light, and that it takes $\frac{1}{4}$ of a second longer to feel a touch than to see a light. Thus the order of precedence in attracting attention would be sight, hearing, touch.

An interesting addition to the material collected in W. G. Black's *Folk-medicine* is made in Mr. James Mooney's paper on the "Medical Mythology of Ireland," where we are told the superstitions described are living realities.

Messrs. E. H. S. Bailey and E. L. Nichols (*Science*, March 23) give an account of some interesting determinations of the sensibility of the sense of taste for the different classes of tastes. The method consisted in having dilute solutions of various strengths, and containing quinine if bitter was to be aroused, cane sugar for sweet, sulphuric acid for acid, sodium bicarbonate for alkaline, and sodium chloride for saline, and in requiring the person tested to arrange these substances according to their taste. Their results, founded upon the observation of 128 persons, 82 male and 46 female, are expressed in the following table:

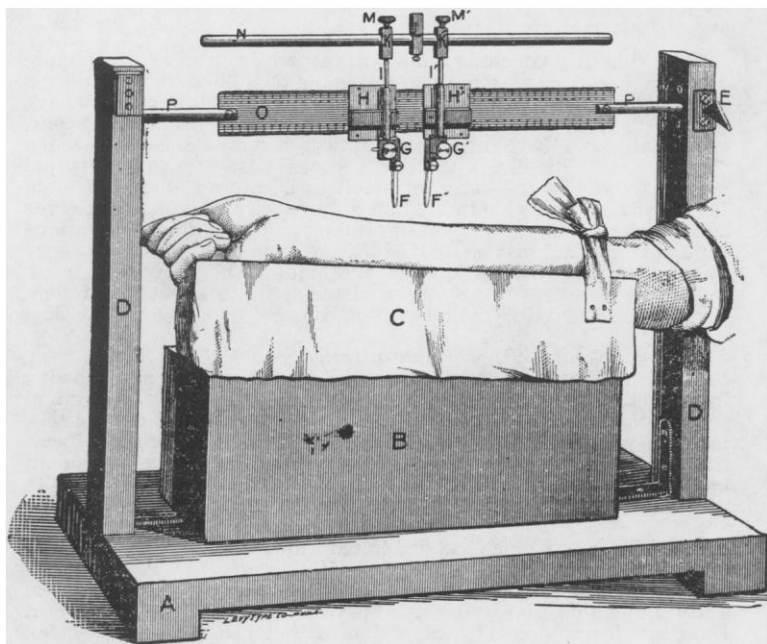
Substances.	Male observers detected	Female observers detected
Quinine.....	One part in 392 000	One part in 456 000
Sugar	" " 199	" " 204
Acid	" " 2 080	" " 3 280
Soda	" " 98	" " 128
Salt	" " 2 240	" " 1 980

From this they conclude that (1) the sense for bitter is vastly more delicate than for any other class, it being possible to detect quinine in a solution only $\frac{1}{392000}$ the strength that a sugar solution must have to be tasted; (2) that the order of delicacy is bitter, acid, salt, sugar, and alkali; and (3) that the sense of taste is more delicate in women than in men. This last is peculiar, because these experimenters had previously shown the sense of smell to be more delicate in men. They also note that wide individual differences presented themselves (as much as in the ratio of one to three), and that these variations were not explicable as results of education, men with great experience in handling drugs being surpassed by women without any such training. In a few cases the ability to detect a dilute sweet was accompanied by an inability to detect dilute bitter. J. J.

Dr. Wm. Noyes, in the *Journal of Social Science*, 1888, 1, gives a very convenient summary of the modern view of the criminal, following in the main the ideas of Lombroso. The distinction of the criminal from his normal fellow-men by physical and psychical abnormalities, many of which indicate a reversion to a more primitive type, forms the chief point in the address. So little of this Italian movement has been presented in English that the above paper is especially welcome.

The Collège de France has just transformed the chair of "The Law of Nature and of Nations" into a chair of "Experimental Psychology," and has called M. Th. Ribot, editor of the *Revue Philosophique* and a well known popular writer upon psychological topics, to the chair. In an article occasioned by this action, M. Janet (*Rev. de Deux Mondes*, April 1, 1888) surveys the various lines of interest that the new psychology embraces. It is wider than physiological psychology and includes the consideration of the morbid manifestations of mind, the minds of the lower animals, of children, and of savages. It is experimental and comparative in its methods, and aims to create a psychology that is abreast of modern science and does justice to all the various phases of the topic. He refutes the notion that the new science is not ready to be taught, as well as the notion that it is "materialistic" in its tendencies. The representatives of the scientific movement have not claimed that theirs is the only aspect of philosophic problems; they have as a rule held the very opposite of materialistic notions, and they are characterized by a spirit of good will and co-operation towards all workers in the field that was lamentably absent from philosophic discussions in the past. M. Ribot in his opening address takes a survey of the activity in matters psychological in the chief European countries and in America, and is able to draw a very hopeful picture indeed. Everywhere is the scientific method being introduced, facts preferred to speculations, and contributions to one or other of the many rubrics of psychology made. Psychological laboratories are spreading, and the day seems not far distant when this science will take recognized place on the curricula of all institutions for the higher education.

The accompanying cut illustrates a new aesthesiometer designed by Dr. Joseph Jastrow, of the Johns Hopkins University. The essential parts of the instrument are as follows: A base, *A*, to which is



attached a pair of uprights, *D D'*; a block, *B*, upon which rests a frame, *C*, for receiving the arm which is held in position by grasping the band as shown in the cut. A fine millimeter-scale, *O*, with two arms, *P P'*, through which it is fastened at *E* at any desired angle. Upon this scale are two carriages, *H H'*, sliding along it with as much or as little friction as is desired. At *G* there is a small "knee" that can be firmly screwed and holds the points, etc., *F F'*; any number and size of these knees can be made. Above are two rods, *I I'*, connected with two head pieces, *K K'*, through which passes a steel rod, *N*. The carriage is held in a fixed position by screwing down the screws at *M M'*, and the two points are made to touch the skin by pressing the button at *L*, which presses down a spring that in turn releases the points. The stand and accessory appliances are of wood, the rest of brass and steel. The length of the scale *O* is 30 decimeters. The instrument is intended to supplant the use of the compass-points held in the hand, and by the numerous variations of the points, etc., allows of a more convenient and accurate application. The points of improvement to which attention is called are the following: (1). The points are no longer held in the hand but are firmly mounted. We are thus sure that the two will touch at once and with equal intensity; the contact is the same one time as the next, and

the time of contact can be regulated. (2). The distance between the points is easily set and accurately measured. (3). The points can be applied at any angle so that, *e. g.*, one can experiment upon the forehead or back with the subject in a normal sitting posture. (4). The points can be used singly by drawing out the rod *N*, and any number of points can be used. (5). The points can be applied to any part of the body by having a suitable support. (6). By using a double apparatus, two pairs of points can be applied to the same points on the skin, or simultaneously on symmetrical portions. (7). Points of any kind can be inserted—type, rods, or other patterns. (8). The points can be moved continuously along the skin, and thus used for mapping out “hot” and “cold points.” (9). By making electrical connections the reaction time for touch can be measured.

HYPNOTISM AMONG THE ESKIMO.—Capt. Healy, in his last report of the cruise of the *Corwin*, reports a most singular performance resembling a spiritualistic *séance*. The wife of one of the natives, an old hag of 60, was observed to drop suddenly on the ground. Her lips were blue, her teeth were set hard together, while her labored breathing produced a light froth from her lips. The eyes were closed, the pupils much contracted, and the whole appearance of the eye expressionless. Her husband immediately ran to her, passed a stout deerskin thong around her head, and secured it to the end of a stout staff about 6 feet in length. He then sat down near the woman's head and brought the staff across his thighs, making a lever of the first kind. Then he began in a chanting tone to speak to a spirit of the dead concerning his probable success during the approaching hunting season. When a question was to be answered he paused and tried to lift the woman's head from the ground. If he succeeded it meant yes; if not, the contrary answer was inferred. The performance went on some time, and such force was used by the man that the poor creature's head was in danger.

During the *séance* the man had his rifle and hunting knife brought and placed near by to ascertain their qualities. When the questioning ceased the thong was removed from the woman's head, and with a few passes exactly similar to those used by mind readers, the woman was restored to consciousness. For a while she seemed dazed and unsteady, but soon commenced to narrate what she had seen in the trance. She claimed to have been far away in a deer country, to have seen relatives and friends of those present, who listened with rapt attention, and with the appearance of perfect confidence in her veracity, to the messages and news which she brought them. This happened at the mouth of Kowak river in Kotzebue Sound, Alaska, in August, 1885.

O. T. MASON.